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Herbers, Daniel J.; Mulder, Clara H.

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Authors: Daniël J. Herbers & Clara H. Mulder

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Corresponding author:

Daniël J. Herbers, Statistics Netherlands, Postbus 4481, 6401 CZ, Heerlen, the Netherlands. Tel.: +31 (0)45 570 7406; Email: dj.herbers@cbs.nl.

Co-author:

Clara H. Mulder, Population Research Centre, Faculty of Spatial Sciences, University of Groningen, Postbus 800, 9700 AV, Groningen, the Netherlands.

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Abstract

Housing quality is known to be related to subjective well-being (SWB), but much less is known how this relationship varies with national contexts. This study addresses the association between housing tenure and housing quality on the one hand and the SWB of older Europeans on the other, given the differences in housing markets across Europe. Data from the Survey on Health, Ageing, and Retirement in Europe (SHARE) were used and linear regression models of SWB were estimated for 16 European countries. The findings indicate that being a renter is negatively related to SWB, while having a large house is positively associated with it. The negative effect of being a renter on SWB is small in several countries with accessible and well-regulated rental markets. Moreover, the difference in SWB between older people with a small and a large dwelling is somewhat smaller in countries with a high level of housing quality than in countries with lower housing quality. For each of our housing indicators, however, we also found countries for which the findings deviated from the general pattern. The findings imply that housing-market characteristics matter to how housing relates to SWB and, therefore, that housing-market interventions might affect this relationship.

Keywords - wellbeing, aging, housing, cross-national research, housing tenure, housing quality

1. Introduction

Subjective wellbeing (SWB) is often referred to as an important goal for human beings (Larsen and Eid, 2008), and studying the factors associated with it can therefore be considered

important as well. Understanding the interrelationship housing and well-being in later life is highly relevant, especially when the developments with regard to ageing in place are considered. In general, living independently in the community as long as possible is what most people prefer, and many governments have been promoting ageing in place. This has resulted in reduced institutionalization and longer periods of independent living among the older population (Férnandez-Carro and Evandrou, 2014; Fausset et al., 2001; Cutchin, 2003). Whether these years can be lived satisfactorily is likely to depend on the suitability of housing in relation to individual needs. This is because ageing in place occurs in a context of declines in physical and mental health later in life (Iwarsson et al., 2007b). Moreover, because ageing in place implies that people spend more time in and around their own house until later ages, housing might become increasingly important to older people's well-being (Oswald and Wahl, 2004; Nygren et al., 2007; Gitlin, 2003; Oswald et al., 2011; Sixsmith et al., 2014). As argued by Iwarsson and colleagues (2007b), to facilitate optimal housing for older people, these issues call for a better understanding of the relationship between housing and SWB in Europe.

In a broader context, the relationship between housing and well-being at older ages has been investigated by identifying housing as part of a person's environment (see also ecological theory on ageing: Lawton and Nahemow, 1973). Several studies found that problems to access the house (Iwarsson and Isacsson, 1997; Iwarsson et al., 2007a) as well as perceived physical aspects and social aspects of housing (Evans et al., 2002;Oswald et al., 2007; Sixsmith et al., 2014) are related to subjective well-being. Only a limited number of studies have focused on the association between housing tenure and housing quality on the one hand, and SWB on the other. Previous research identified a positive link between homeownership and SWB at older ages (Zumbro, 2014; Rohe and Bassolo, 1997; Rossi and Weber, 1996; however renters were found to have higher SWB in Oswald et al., 2003), and

housing quality was also found to be positively related to SWB (Zumbro, 2014; Evans et al., 2002; Oswald et al., 2007).

The relation between housing and SWB may depend on differences in the national housing context (Iwarsson et al., 2007b; Oswald et al., 2007). Legislation, norms and guidelines for housing differ widely among European countries, and studies have shown that particular housing situations do not have the same meaning all across Europe. Elsinga & Hoekstra (2005), for example, have argued that living in a rental house offers basic security in some countries, but not in others. Nevertheless, the understanding of cross-national similarities and differences in the ageing process is limited (Iwarsson et al., 2004) and empirical research on housing and well-being in later life is scarce. We are aware of only one study that addresses cross-national differences in the association between housing and SWB. Oswald et al. (2007) found similar relations between housing and well-being in Sweden, the United Kingdom, Germany, Latvia and Hungary. As Oswald and colleagues (2007) also acknowledge, further research is necessary to examine the relationships between housing and well-being in different national contexts because their study was carried out only in urban settings and limited to individuals living alone.

The research question addressed in this paper, therefore, is: “How are housing tenure and housing quality related to older adults’ subjective well-being, and how does this relation vary across Europe?”. We test three hypotheses derived from theoretical ideas based on cross-national differences in housing tenure and housing quality. Cross-sectional data (SHARE Wave 4) of respondents aged 50 and over from sixteen European countries were used (N = 35,739 / Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Italy, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden and Switzerland). We used self-reported life satisfaction to measure SWB, and estimated linear regression models of life satisfaction for the separate countries.

2. Housing and subjective well-being: differences across Europe

In European cross-national comparative research, differences in welfare regimes are often useful as a starting point (Esping-Andersen, 1990;1999). Housing, however, has often been neglected in comparative welfare research (Kemeny, 2001). Compared to other welfare services (such as social security, education and health), housing is usually not considered as a subject of public provision, even though it is considered as a universal right. This vulnerable position has made housing the 'wobbly pillar under the welfare state' (Torgersen, 1987; Kemeny, 2001). Only more recently housing has become part of the scientific discussion on welfare systems (Hoekstra, 2005; Ronald, 2007; Allen et al., 2004; Norris and Domanksi, 2009). Comparative housing research has progressed, and many studies have shown large variations in housing policy as well as housing outcomes across countries. We use this knowledge to explore variations in housing tenure (hypothesis 1), mortgage markets (hyoothesis 2), and housing quality (hypothesis 3), and examine cross-national differences in the relation between these three housing indicators and SWB.

2.1 Housing tenure

Positive aspects of home ownership are the security and stability associated with it (Dupuis and Thorns, 1998; Saunders, 1990), the possibilities to adapt the home to one's preferences (Rohe et al., 2013) and the wealth stored in the home which is available for release when needed (Aurand and Reynolds, 2013). Most previous work has shown that owners have higher SWB than renters (Zumbro, 2014; Rohe and Bassolo, 1997; Rossi and Weber, 1996; however renters had higher SWB in: Oswald et al., 2003).

Whether home ownership is necessary to acquire a sense of personal security is likely associated with the function of homeownership in a country. Kemeny (1995) distinguished

between two housing systems: home-owning societies and cost-rental societies. He denotes the rental markets in home-owning societies as dual rental markets, and the rental markets in cost-rental societies as unitary rental markets (see also Norris and Winston, 2012; Elsinga and Hoekstra, 2005). In home owning societies (in our sample represented by Belgium, Spain, Italy, Portugal, Czech Republic, Hungary, Estonia, Poland and Slovenia) home ownership is promoted by governments, while the rental sector is considered less desirable and is mainly inhabited by the most disadvantaged people (Norris and Domanski, 2009). In cost-rental societies (represented by Denmark, The Netherlands, Sweden, Germany, Switzerland, Austria and France) housing policies are largely tenure-neutral and renting offers basic security because tenants are protected and rents are regulated (Behring and Elbrecht, 2002; Toussaint and Elsinga, 2006). Therefore, renting is considered to be a good alternative to home ownership in cost-rental societies (Elsinga, 1995; Kemeny, 2001; Elsinga and Hoekstra, 2005). Despite the similarities, policies with regard to the promotion of home ownership have not developed equally across all cost-rental societies. In the Netherlands, for example, home ownership has been promoted strongly, which resulted in a rapid increase in the share of home owners compared to other cost-rental societies (Musterd, 2014). Nevertheless, cost-rental societies are grouped together in this study given that the basic security that rental sector offers is the distinctive factor compared to the rental sector in home owning societies.

The distinction between cost-rental and home owning societies was traditionally developed for north-west Europe (e.g Hoekstra, 2009). In our study, home-owning societies in north-west Europe are represented by Belgium. As Mandic and Cirman (2012) argue, differences between home-owning societies need further specification for other parts of Europe. They conclude that the meaning of home ownership is distinctively different in southern European countries (Spain, Portugal and Italy) because family has an important role in acquiring home ownership, and home ownership is an important family tradition (see also

Poggio, 2012; Allen et al., 2004). In many post-socialist countries (represented by Czech Republic, Hungary, Estionia, Poland and Slovenia) the percentage of home owners has increased after privatizations in the 1990s. Consequently, in contrast to other home owning societies, many owner occupied dwellings are of low quality because a large share of the former tenants have low incomes and cannot afford necessary upkeep of the dwelling (Norris and Domanski, 2009). It should be noted that, just like in southern Europe, family is also important in sustaining home ownership in post-socialist countries (Mandic, 2012).

In home-owning societies home ownership is promoted, and renting is not considered to be a good alternative to owning. It is therefore expected that home ownership has a larger positive association with SWB in home owning societies than in cost-rental societies (hypothesis 1).

2.2 Mortgages

People who own their dwelling outright are free from the burden of monthly payments and do not have to worry about not being able to complete them. Compared with that situation, having a mortgage is likely to incur more stress and financial insecurity, which could lead to lower SWB. Cairney and Boyle (2004) found that outright owners have higher SWB than owners with a mortgage in Canada.

There are marked differences in the share of mortgage holders and the accessibility of mortgage markets across Europe. Using the criterion of Mulder and Billari (2010) with respect to accessibility of mortgage markets (mortgage debt per capita; see EMF, various years), we can classify European countries in three groups: countries with accessible mortgage markets and a large share of mortgage holders (represented by Sweden, The Netherlands, Denmark and Switzerland), countries with well-developed and accessible mortgage markets, but a large share of outright homeowners (Austria, Germany, France,

Belgium, Spain and Portugal, see also Norris and Winston, 2012), and countries with an underdeveloped mortgage market and difficult access to mortgages (Italy, Czech Republic, Estonia, Poland, Slovenia and Hungary, see also Norris and Shiels, 2007; Norris and Domanski, 2009). In these last two groups of countries, homeownership is more often acquired through inheritance or financial help of the family (Angelini et al., 2013; Allen et al., 2004; Mandic, 2012; Norris and Winston, 2012).

In countries with accessible mortgage markets, mortgage holders are well-protected and the risks associated with holding a mortgage are lower. In contrast, facing underdeveloped mortgage markets, mortgage holders might frequently be people who could not afford a home in the owner occupied sector, but are pushed into a mortgage because suitable alternatives in the rental sector are not available. Therefore, it is expected that the gap in SWB between outright owners and owners with a mortgage is smaller in countries with more accessible, better developed mortgage markets (hypothesis 2).

2.3 Housing quality

There is some strong evidence supporting a link between physical housing aspects and SWB (see Oswald and Wahl, 2004 for a detailed review). Several studies have shown the positive association between housing quality and SWB (Zumbro, 2014; Evans et al., 2002; Oswald et al., 2007; Nygren et al., 2007). Housing quality is often measured using dwelling size (Zumbro, 2014; Oswald et al., 2003). Oswald and colleagues (2011) found that dwelling size was related positively to SWB for the young old (65-79), but negatively for the old-old (80+), possibly because physical problems at older ages limit the ability to maintain a large home.

According to Norris and Shiels (2007) institutional factors, such as differences in private and public funding for housing, are mainly responsible for the differences in housing quality between countries. Nowadays housing conditions in southern European countries are

close to housing standards in north (Denmark, Sweden and The Netherlands) and central Europe (Belgium, Austria, France, Germany, Switzerland). Southern European countries in our data are Portugal, Italy and Spain, but a more detailed study of housing quality in southern Europe has shown that housing quality in Portugal is low compared to other southern European countries (Federcasa, 2006). Post-socialist countries still face relatively poor housing conditions, associated with the privatizations of state-owned housing (Pittini and Laino, 2011; Norris and Shiels, 2007). The number of rooms per person differs markedly between eastern Europe and other European countries (Federcasa, 2006; Pittini and Laino, 2011).

We may expect a positive association between housing quality and SWB, but the magnitude of the association is expected to differ between countries. Possibly, the link between living in a low-quality dwelling and individual SWB might be larger in some countries because of greater relative deprivation. According to relative deprivation theory, individuals might not suffer from absolute conditions, but from their relative conditions in comparison with others (Merton & Kitt, 1950). Stewart (2006) found a positive link between relative deprivation and SWB, showing that people who experience higher levels of relative deprivation have lower SWB. We are not aware of any studies investigating relation between relative housing conditions and SWB, but Golant and La Greca (1995) suggested there might be a link between relative housing conditions and health for older people. Our expectation is that the difference in SWB between living in a small and large dwelling is larger in eastern European countries, where housing quality is lower, and differences in housing quality are larger (hypothesis 3).

3. Data and methods

3.1 Dataset

The data were derived from SHARE (Survey of Health, Ageing and Retirement in Europe) Wave 4 (2012), which contains information on health, socio-economic status, social and family networks of adults aged 50 and over in 16 European countries (Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Italy, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden and Switzerland, N = 58,489) (Börsch-Supan et al., 2013). From each household we selected "the family and household respondent", which is one person per household who answered questions from both the family module and the housing module (N = 37,122). As a next step 287 respondents younger than 50, and 778 respondents with missing information on the dependent and main explanatory variables were excluded from the analysis. The final sample consists of 36,015 respondents.

3.2 Dependent variable

The dependent variable used to measure subjective well-being is life satisfaction. Life satisfaction has been used in many studies investigating SWB (Margolis and Myrskyla, 2010; Gaymu and Springer, 2010; Van der Pers et al., 2014; Oswald et al., 2007). Compared to happiness – another commonly used measure of SWB-, life satisfaction is a more stable evaluation of SWB over time (Helliwell & Putnam, 2004). It has been found to be a valid and reliable measure of SWB (Diener et al., 1999; Lelkes, 2006). Life satisfaction was assessed with a single-item question using an 11 point-rating. The phrasing of the question in SHARE is: "*On a scale from 0 to 10 where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with your life?*".

3.3 Main explanatory variables

Housing tenure has five categories: homeowner with a mortgage; outright homeowner; homeowner with unknown mortgage status; renter; and other tenures. Two variables were

used to account for housing quality. *Number of rooms* in the dwelling, in four categories: one or two rooms; three to five rooms; six or more rooms; and number of rooms unknown. *Number of rooms per person* was introduced to account for relative dwelling size.

3.4 Control variables

Married older adults have higher SWB compared to older adults living alone (Antonucci et al. 2001), and older adults who have a child in the home seem to have slightly higher SWB than parents whose children live outside the home (Hansen et al. 2009). *Household composition* was therefore included in a variable with 6 categories: living alone, living with a partner, living with children, living with a partner and children, living with a partner and other family or non-family members, and living with others than a partner or children. Level of education is positively associated with SWB (Diener et al. 1999), and educational level has been included with four categories derived from the International Standard Classification of Education (ISCED, UNESCO 2006): no education to lower secondary education (no education and ISCED 1 and 2); secondary education or higher (ISCED 3-6); still in education or other; and educational level missing. Unemployed people generally have lower SWB, while retirement has been found to be sometimes negative and sometimes positive for SWB (Kim and Moen 2001).*Employment status* was measured in four categories: working; unemployed; retired; or other working situation. Respondents who left the labour force temporarily or who left a paid job but did not enter retirement were added to the category unemployed. Other working situation includes respondents who were homemaker, had never done paid work or were sick or disabled. *Skill level of the job* was introduced as another indicator of socio-economic status; jobs with skill level 1 are elementary occupations according to the International Standard Classification of Occupations (ISCO-88, nr. 9 and 0; Hoffmann and Scott 1992). Jobs categorized as clerk, service, shop, craft or agricultural

workers, and plant or machine operators were assigned to skill level 2 (ISCO-99 nr 4-8). Skill level 3 corresponds to technicians and associate professionals (nr. 3), while professionals, legislators, senior officials and managers (nr. 1 and 2) were assigned to skill level 4. We assigned unemployed respondents to the skill level of the previous job, while the self-reported most important job was used for retired individuals. Respondents who never did paid work and respondents with missing information on skill-level were included in separate categories.

Other control variables added to the models were *degree of urbanization*, knowing that people living in urban areas often have higher SWB (Serra et al. 2013). It was measured as city or suburb; large or small town; and rural area or village. *Health* is positively related to SWB in later life (Gaymu and Springer 2010) and was measured with self-reported health in three categories: excellent or very good health; good health; and fair or poor health. Finally, a dummy for *gender* and a categorical variable for *age* were included: 50–64; 65–74; 75–84; 85 and over. Women generally report higher SWB than men, while SWB shows a U-shaped pattern over age (for an overview, see Dolan et al. 2008). Table 1 presents descriptive statistics of the dependent and main explanatory variables.

[Table 1 about here]

3.5 Method of analysis

First, linear regression models were estimated for all countries together in a pooled model with country dummies (Table 4.2. Next, models for each country separately were estimated to compare the relationship between housing and SWB between countries (Table 4.3). Even though we identified similarities among countries with respect to housing characteristics, we did not pool the samples of the countries in the cross-national comparison into categories of countries, because there was quite some variation in the coefficients of housing tenure and housing quality within categories of countries. An analysis of the associations between

housing and SWB for each country separately therefore seemed the most appropriate method to assess cross-national differences. To determine whether the association between housing tenure, housing quality and SWB differed among the countries under study we performed the Z-test for independent samples for each pair of countries, using the following formula (Paternoster et al., 1998):

$$Z = \frac{\beta_1 - \beta_2}{\sqrt{SE_{\beta 1}^2 + SE_{\beta 2}^2}}$$

Where ß1 and ß2 are the coefficients for two countries, and $SE_{ß1}$ and $SE_{ß2}$ are the standard errors of these coefficients.

4. Results

4.1 Descriptive results and results of the pooled regression model

The descriptive results (Table 1) show large cross-national differences in SWB. Average life satisfaction varies from 6.49 in Hungary to 8.46 in Denmark. The share of older people renting is relatively high in Austria, Germany, The Netherlands and Switzerlandand particularly low in Italy, Czech Republic, Poland, Spain, Estonia, Hungary and Slovenia. In Sweden, The Netherlands, Switzerland and Denmark, the majority of the home owners holds a mortgage. Switzerland and Belgium are the countries with the most dwellings with six or more rooms. Homes are smaller in Estonia, Slovenia, Hungary, Poland and Czech Republic.

The results of the pooled model for all countries (Table 2) show that older people who rent their dwelling have significantly lower SWB than outright homeowners and mortgage holders. Respondents who own their home outright have significantly higher SWB than homeowners with a mortgage. These results confirm earlier findings that homeowners have higher SWB than renters (Zumbro, 2014; Rohe and Bassolo, 1997, for owning versus renting; Cairney and Boyle, 2004, for outright homeowners versus mortgage holders). With respect to

housing quality, results indicate that older adults who live in dwelling with more rooms have higher SWB, which was also found by Oswald and colleagues (2011) for the young-old.

[Table 2 about here]

4.2 Hypothesis 1: Cross-national differences in SWB between outright home owners and renters

The difference in SWB between outright home owners and renters is large in France, Portugal, Italy, Spain, Czech Republic, Hungary, Poland and Slovenia (Table 3). Looking at the results of the equality of regression coefficients test, the difference is significantly larger in France, Spain and Poland than in Sweden, Denmark and The Netherlands (see Appendix III, Table 1 for the significance of all tests). This finding partly confirms our expectation that home ownership has a larger positive impact on SWB in home owning societies compared to cost-rental societies (hypothesis 1). Being a renter at older ages has a small, or does not have a negative association with SWB at all in some of the countries where tenants are better protected, and renting is a considered to be a good alternative to home ownership (Denmark, the Netherlands and Sweden). Renters have significantly lower levels of SWB in Switzerland, Austria and Germany, but the association is relatively small compared to the difference in SWB between renters and outright home owners in most of the home-owning societies (Spain, Portugal, Italy, Poland, Slovenia and Czech Republic).

[Table 3 about here]

In three countries, however, the results are not in line with our expectations. Because France has a unitary rental market and renting is considered a good alternative to owning, we would expect a small difference between SWB of renters and homeowners in France. However, the difference in SWB between renters and outright homeowners is quite large. On

the contrary, Belgium and Estonia are two home-owning societies with dual rental markets, in which the SWB difference between renters and outright owners was expected to be large knowing that the rental sector is less desirable. However, the difference in SWB between renters and homeowners is relatively small in these countries. Apparently, the distinction between home-owning and cost-rental societies does not completely cover the variation found in the relation between home ownership and SWB. For Estonia and Belgium, the literature provides some suggestions for explanations of the deviations from the general pattern. In Estonia, privatizations started later compared to other home-owning societies in eastern Europe and the share of homeowners has remained low for a longer period. The difference in housing quality between homeowners and renters is also relatively small in Estonia (Norris and Domanski 2009). These differences from other homeowning societies might have resulted in only minor disadvantages for renters compared to homeowners. Toussaint and Elsinga (2006) mention Belgium as exceptional in its housing policy with respect to home ownership and the level of social protection. The level of social protection is relatively high in Belgium, even though home ownership is favoured over renting (Toussaint and Elsinga 2006). It might be that these kinds of country-specific housing regulations and housing-market characteristics interfere with the link between housing tenure and subjective well-being. A more in-depth evaluation of country-specific housing policy and housing developments is needed to find better explanations for the observed differences among home-owning societies and among costrental societies.

4.3 Hypothesis 2: Cross-national differences in SWB between outright home owners and mortgage holders

The difference in SWB between older outright owners and mortgage holders is negligible in The Netherlands, Sweden and Switzerland, which is in line with our expectations that holding a mortgage in countries with accessible and well-developed mortgage markets is less associated with lower SWB than owning a home outright (hypothesis 2). The difference in SWB between mortgage holders and outright homeowners is relatively large in some countries with underdeveloped mortgage markets, namely Slovenia, Hungary, and to a smaller extent Czech Republic, which is in line with our expectations. In contrast with our expectations, the difference in SWB between older adults who hold a mortgage and outright homeowners is larger than expected in Denmark, Belgium Spain and Germany. In these countries mortgage markets are accessible and mortgage holders are well-protected, which was the reason why we expected a smaller difference in SWB between mortgage holders and outright home owners. Surprisingly the difference in SWB between mortgage holders and outright homeowners is small in several countries with underdeveloped mortgage markets: Italy, Estonia and Poland. For these countries, we do not find evidence for the idea that an underdeveloped mortgage market could lead to lower SWB because of more stress and financial insecurity for mortgage holders (see also Cairney and Boyle, 2004).

4.4 Hypothesis 3:Cross-national differences in the association between housing quality and SWB

The results show that older adults have higher SWB if they reside in larger dwellings in all countries except The Netherlands, Switzerland, Germany, Belgium and Spain. Our findings show that the difference in SWB between older adults with a dwelling in the smallest category and older adults with a large dwelling is somewhat larger in Denmark, Hungary, Poland, Slovenia, Estonia and Portugal, than in Sweden, Austria, France and Czech Republic. Except for Denmark and Czech Republic, these findings are in line with the hypothesis that dwelling

size has a larger impact on SWB in countries with lower housing quality (hypothesis 3). Portugal was identified earlier as a country with lower housing quality than other southern European countries (Federcasa, 2006). It was expected that the difference in SWB between older adults in small and large dwellings would be small in Denmark, because of high housing quality, but a large difference was observed. For Czech Republic the opposite was true: smaller SWB differences were observed than expected based on the housing quality in Czech Republic.

5. Discussion

Previous research showed that housing plays an important role in subjective well-being at older ages. In this paper we add to the existing literature by looking at the differences between European countries in the associations between housing and SWB. An earlier study found that the relationship between housing and health was similar across countries (Oswald et al., 2007), likely because housing is such a crucial element of SWB at older ages that older people face more or less similar challenges in different contexts (Iwarsson et al., 2007a). In this study we find that the associations between housing tenure and housing quality, and SWB were largely in the same expected direction across nations. However, the magnitude of the association with SWB varied between countries.

It was found that the impact of housing tenure and housing quality on SWB varied between European countries with different housing systems, mortgage markets and housing quality. The difference in SWB between older homeowners and renters is larger in home-owning societies except Belgium and Estonia. In all cost-rental societies except France, the gap in SWB between owners and renters was smaller. These results are in line with the idea that the benefits that have mainly been associated with home ownership, namely security and stability (Dupuis and Thorns, 1998; Saunders, 1990), can also be found in the rental sector of

particularly Denmark, Sweden and The Netherlands. The results suggest that the difference in SWB between older renters and older homeowners is smaller in countries where governments take measures to protect renters and their rights. In order to explore this idea further, future research could address the security and stability experienced by renters and homeowners directly in different contexts. A recommendation to policy makers would be to encourage tenant protection and rent regulation, in order to minimalize the difference in SWB between renters and homeowners.

Moreover, we found that in several countries with well-developed mortgage markets, such as Sweden, The Netherlands and Switzerland, the difference in SWB between outright homeowners and owners with a mortgage is negligible. For these countries, the findings seem to confirm the idea that an accessible mortgage market leads to less financial stress for mortgage holders, while in some countries with less developed (Spain, Belgium), or under-developed mortgage markets (Slovenia, Hungary and Czech Republic), the SWB of mortgage holders is lower than the SWB of outright homeowners. It might as well be that holding a mortgage is more stressful in countries where renting is not a good alternative to home ownership. Some people who are not able to finance an owner occupied dwelling might be pushed into the owner occupied sector and forced into a mortgage, because renting is not a reasonable alternative to home ownership. It should be noted that differences in SWB between outright owners and mortgage holders are relatively small, and that the findings for seven countries differed from the general pattern across countries. Future studies could look into mortgage markets in different European countries in more detail, in order to gain better understanding of the differences in SWB between mortgage holders and outright homeowners.

The results with respect to housing quality show that the difference in SWB between people with spacious and older people with small housing is larger in countries with lower

housing quality. We might conclude that housing quality matters more in countries where it varies more. This seems to be in line with relative deprivation theory (Merton and Kitt, 1950), housing quality has a larger impact on an individuals' SWB if greater inequalities in housing quality exist among other people around them. The findings for Denmark and Czech Republic differed from this pattern, we found larger differences in SWB between older people with large and small homes in Denmark, and the difference was smaller than expected in Czech Republic.

One limitation of the current study is the rather superficial measure of housing quality available in the data. Previous studies have suggested that both objective and subjective indicators of housing conditions are important to consider when examining the relation between well-being and housing (Iwarsson et al., 2004). Future studies comparing the relations between housing quality and SWB across Europe could try to use a broader range of housing quality indicators. This would require substantial improvements with respect to micro-level data on housing quality in surveys that also measure SWB, or the inclusion of SWB in surveys that contain more detailed measures of housing quality. Moreover, several researchers have argued that housing is more than just the home. They argue that the community and neighbourhood are important as well (Vera-Toscano and Ateca-Amestoy, 2008; Wiles et al., 2011). In order to capture the impact of a country's housing context on the association between housing and SWB among older people, a more complete assessment of the person and his or her environment (physical, perceived and social environment) could be useful (Oswald et al., 2011).

Because increasing shares of the older Europeans live independently in their own house until later ages, it is likely that suitable housing becomes increasingly important for their well-being. Our findings suggest that housing policy on a national level might affect the relation between housing and well-being later in life. Older renters in countries with an

underdeveloped rental market are disadvantaged compared to older renters in countries with greater protection for renters. Moreover, older people living in small homes in countries with greater inequalities in housing quality are disadvantaged compared their counterparts in countries where housing quality varies less strongly. Policymakers should pay particular attention to these two categories of older people given that their wellbeing is strongly related to their housing situation. A thorough understanding of how the housing context affects the well-being of older people will help design policy aimed at creating equal opportunities to achieve high levels of well-being. Acknowledging the differences in SWB between people with different housing tenures and dwelling sizes could be an important step in improving the living conditions and well-being of older Europeans.

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Table 1: Frequencies and averages by country, dependent and main explanatory variables

	DK	NL	SE	CH	AU	FR	DE	BE	IT	PT	ES	CZ	EE	HU	PL	SL	Total
Number of respondents (N)	1334	1640	1235	2416	3573	3529	957	3272	2049	1195	2023	3808	4269	1767	1011	1937	36015
Life satisfaction (average)	8.46	7.98	8.32	8.33	8.17	7.04	7.62	7.59	7.46	6.91	7.46	7.16	6.53	6.49	7.25	7.36	7.43
Housing tenure (%)																	
Home owner with mortgage	49	49	42	47	9	10	15	16	6	11	9	4	5	11	2	3	15
Outright homeowner	24	16	32	9	43	65	46	57	73	61	79	65	78	75	72	81	57
Home owner, mortgage status unknown	0	2	0	2	1	1	1	1	2	2	3	7	2	2	2	2	2
Renter	25	32	25	39	33	19	31	22	12	22	5	9	3	3	8	2	17
Other tenure	0	1	1	3	14	4	6	5	8	5	3	14	12	10	17	11	8
Dwelling size (%)																	
Zero to two rooms	13	5	16	8	25	10	13	8	13	8	4	35	44	45	40	39	22
Three to five rooms	59	70	59	64	63	67	51	59	67	73	70	55	51	53	34	55	60
Six or more rooms	17	13	13	23	11	18	13	26	9	19	12	6	4	2	2	5	12
Number of rooms missing	10	13	12	5	2	6	23	7	12	0	13	4	0	0	24	1	6
Number of rooms pp (average)	2.4	2.3	2.3	2.5	2.2	2.6	1.8	2.7	1.7	2.2	1.9	1.7	1.7	1.5	0.9	1.5	2.1

Note: See Appendix I for frequencies and averages of other independent variables.
Country codes: Denmark (DK), The Netherlands (NL), Sweden (SE), Switzerland (CH), Austria (AU), France (FR), Germany (DE), Belgium (BE), Italy (IT), Portugal (PT), Spain (ES), Czech Repbulic (CZ), Estonia (EE), Hungary (HU), Poland (PL), Slovenia (SL)

Table 2: Linear regression of life satisfaction (country dummies)

	B	S.E.
Housing tenure (ref = Outright homeowner)		
Home owner with mortgage	-0.168***	0.030
Home owner, mortgage status unknown	-0.127**	0.063
Renter	-0.319***	0.029
Other tenure	-0.002	0.035
Dwelling size (ref = Three to five rooms)		
Zero to two rooms	-0.159***	0.030
Six or more rooms	0.098***	0.035
Number of rooms missing	0.051	0.048
Number of rooms per person	-0.004	0.012
Household composition (ref = Living alone)		
Living with a partner	0.433***	0.030
Living with children	-0.177***	0.045
Living with partner and child(ren)	0.361***	0.042
Living with partner and other household member(s)	0.370***	0.060
Living with other household members	-0.149**	0.059
Educational level (ref = ISCED level 0 to 2)		
ISCED level 3 to 6	0.073***	0.022
Still in education or other	-0.089	0.122
Educational level missing	-0.104*	0.059
Labour-market status (ref = Retired)		
Working	0.059**	0.028
Unemployed	-0.757***	0.054
Other (homemaker/ sick/ disabled)	-0.255***	0.035
Skill level of the job (ref = ISCO level 1 and 2)		
ISCO level 3 and 4	0.196***	0.023
Never done paid work	0.129**	0.053
Skill level missing	0.089*	0.052
Degree of urbanization (ref = Big city or suburb)		
Degree of urbanization missing	-0.033	0.054
Large or small town	0.045*	0.024
Village or rural area	-0.039	0.026
Self-reported health (ref = Good health)		
Very good or excellent health	0.485***	0.025
Fair or poor health	-0.827***	0.022
Female	0.086***	0.019
Age (ref = 50-65)		
65-75	0.193***	0.026
75-85	0.324***	0.031
85+	0.527***	0.047
Country (ref = Austria)		
Denmark	0.063	0.056
Netherlands	-0.192***	0.054

Sweden	-0.015	0.059
Switzerland	0.009	0.047
Germany	-0.498***	0.063
France	-1.083***	0.042
Belgium	-0.600***	0.043
Italy	-0.655***	0.049
Portugal	-0.917***	0.059
Spain	-0.568***	0.052
Czech Republic	-0.905***	0.042
Estonia	-1.260***	0.042
Hungary	-1.330***	0.052
Poland	-0.575***	0.063
Slovenia	-0.710***	0.050
Constant	7.964***	0.067
N (respondents)	36015	
F Statistic	215.98	
Adjusted R Square	0.215	
Significance: * p < 0.1; ** p < 0.05; *** p < 0.01		

Table 3: Linear regression of life satisfaction for countries separately, parameters for housing tenure and housing quality

	DK	NL	SE	CH	AU	FR	DE	BE
Housing tenure (ref = Outright homeowner)								
Homeowner with mortgage	-0.200**	0.042	-0.046	0.001	-0.124	-0.120	-0.265	-0.195**
Homeowner, mortgage status unknown	-0.634	-0.223	0.250	0.202	-0.284	-0.195	-0.378	-0.010
Renter	-0.096	-0.156*	-0.059	-0.271***	-0.259***	-0.427***	-0.263*	-0.263***
Other tenure	0.537	0.179	-0.314	-0.202	-0.113	0.174	0.153	-0.053
Dwelling size (ref = Three to five rooms)								
Zero to two rooms	-0.318**	0.106	-0.171	-0.238**	-0.281***	-0.061	0.114	-0.242**
Six or more rooms	0.304**	0.169*	0.067	-0.040	0.075	0.106	0.062	-0.121
Number of rooms missing	-0.252	0.119	0.175	0.005	-0.237	0.072	0.493**	0.188
Number of rooms per person	-0.079	-0.014	0.045	0.034	-0.017	0.013	0.154*	0.027
Constant	8.300***	7.664***	7.694***	7.601***	7.705***	6.815***	7.126***	7.408***
	IT	PT	ES	CZ	EE	HU	PL	SL
Housing tenure (ref = Outright homeowner)								
Homeowner with mortgage	0.028	-0.038	-0.190	-0.143	-0.018	-0.595***	-0.104	-0.256
Homeowner mortgage status unknown	-0.166	-0.464	-0.274	-0.224*	0.471**	0.165	-1.083**	0.342
Renter	-0.366***	-0.472***	-0.617***	-0.377***	-0.122	-0.355	-0.653***	-0.620**
Other tenure	-0.102	-0.193	0.063	-0.019	0.099	0.066	-0.301*	0.156
Dwelling size (ref = Three to five rooms)								
Zero to two rooms	-0.275**	-0.376	0.227	-0.138	-0.199**	-0.068	-0.208	-0.277**
Six or more rooms	0.116	0.277	0.210	0.064	0.455**	0.491	1.030**	0.277
Number of rooms missing	0.038	0.465	0.452***	0.078	-1.594**	-0.866	-0.423	-1.015**
Number of rooms per person	0.020	-0.086	0.066	-0.055	-0.051	0.000	-0.263**	-0.019
Constant	7.302***	7.790***	7.327***	7.107***	6.646***	6.617***	8.187***	6.948***

Significance: * p < 0.1; ** p < 0.05; *** p < 0.01

Note: See Appendix II for complete models including all independent variables.

Country codes: Denmark (DK), The Netherlands (NL), Sweden (SE), Switzerland (CH), Austria (AU), France (FR), Germany (DE), Belgium (BE), Italy (IT), Portugal (PT), Spain (ES), Czech Repbulic (CZ), Estonia (EE), Hungary (HU), Poland (PL), Slovenia (SL)

Appendix I: Frequencies and averages by country, other explanatory variables

	DK	NL	SE	CH	AU	FR	DE	BE	IT	PT	ES	CZ	EE	HU	PL	SL	Total
Household composition (%)																	
Living alone	38	32	40	31	41	40	28	36	21	19	19	34	36	30	20	25	33
Living with a partner	44	48	49	45	38	38	52	36	32	37	32	39	38	34	25	37	38
Living with children	2	3	1	4	4	5	3	7	8	10	8	7	9	12	16	7	7
Living with partner and child(ren)	13	14	8	16	12	12	9	15	30	25	26	13	11	19	22	24	16
Living with partner and other household member(s)	2	3	1	3	2	2	6	3	5	4	7	3	3	2	11	3	3
Living with other household member(s)	1	1	1	2	2	2	3	2	4	4	8	3	3	3	6	3	3
Educational level (%)																	
ISCED level 0 to 2	19	46	44	20	25	39	12	40	68	56	70	45	31	34	40	30	38
ISCED level 3 to 6	80	51	53	79	75	53	85	57	30	35	18	53	69	66	53	65	58
Still in education or other	0	1	1	1	0	1	0	1	0	2	1	1	0	0	0	0	1
Educational level missing	0	2	2	1	0	7	3	2	2	6	11	0	0	0	6	5	3
Labour-market status (%)																	
Working	41	29	27	42	22	25	21	29	19	21	19	22	32	19	12	19	26
Unemployed	2	2	1	2	3	3	3	5	2	6	6	2	4	5	3	5	3
Retired	50	46	70	46	65	63	66	49	55	58	40	72	57	67	71	68	59
Other (homemaker/ sick/ disabled)	7	23	2	10	11	9	9	17	25	14	35	3	6	10	14	9	12
Skill level of the job (%)																	
ISCO level 1 and 2	70	57	46	70	72	64	68	63	67	66	61	73	69	81	84	64	68
ISCO level 3 and 4	27	33	38	27	20	29	23	27	15	26	11	26	31	18	14	29	25
Never done paid work	0	3	1	2	4	3	1	6	15	7	19	0	0	1	1	6	4
Skill level missing	3	7	15	1	4	4	8	3	3	1	9	1	0	0	1	2	3
Degree of urbanization (%)																	
Big city or suburb	29	36	31	16	32	17	27	25	18	56	29	24	22	28	20	15	25
Large or small town	48	44	54	26	22	38	38	45	41	13	63	48	44	39	34	25	39
Village or rural area	22	20	15	53	42	45	35	28	39	26	6	23	28	33	46	56	33
Degree of urbanization missing	0	0	0	5	4	1	0	2	1	5	2	6	6	1	0	4	3
Self-reported health (%)																	

Very good or excellent health	52	29	40	42	34	20	17	29	22	12	16	17	5	13	7	19	23
Good health	25	41	28	39	36	41	41	41	36	26	37	38	23	24	34	36	35
Fair or poor health	23	30	32	19	30	38	43	30	42	62	46	45	72	63	59	45	43
Gender (%)																	
Male	47	43	47	47	40	43	48	45	43	46	40	35	33	34	34	44	41
Female	53	57	53	53	60	57	52	55	57	54	60	65	67	66	66	56	59
Age group (%)																	
50-65	52	52	33	52	49	50	38	56	43	53	43	50	46	54	49	53	49
65-75	26	27	38	28	31	23	36	23	34	28	27	30	30	28	29	25	28
75-85	16	16	21	16	16	20	20	16	18	16	23	16	21	15	17	18	18
85+	7	5	9	4	4	7	6	6	4	3	7	4	4	3	5	4	5

Country codes: Denmark (DK), The Netherlands (NL), Sweden (SE), Switzerland (CH), Austria (AU), France (FR), Germany (DE), Belgium (BE), Italy (IT), Portugal (PT), Spain (ES), Czech Repbulic (CZ), Estonia (EE), Hungary (HU), Poland (PL), Slovenia (SL)

Appendix II: Parameters for control variables in linear regression of life satisfaction for all countries separately

	DK	NL	SE	CH	AU	FR	DE	BE
Household composition (ref = Living alone)								
Living with a partner	0.410***	0.393***	0.530***	0.414***	0.409***	0.326***	0.603***	0.492***
Living with children	-0.455	0.112	-0.447	-0.324*	-0.213	-0.236	0.149	0.009
Living with partner and child(ren)	0.198	0.110	0.494**	0.267**	0.265*	0.210	0.680**	0.499***
Living with partner and other household member(s)	0.483*	0.061	0.812**	0.163	0.390*	0.330	0.340	0.472***
Living with other household members	0.316	-0.444	-0.114	0.103	0.098	0.279	0.694*	-0.150
Educational level (ref = ISCED level 0 to 2)								
ISCED level 3 to 6	-0.078	-0.062	-0.068	0.173**	0.171**	0.061	-0.113	-0.014
Still in education or other	0.032	-0.039	-0.330	0.429	0.421	0.152	0.294	-0.495**
Educational level missing	0.040	-0.271	-0.154	0.766**	-0.075	0.061	-0.148	-0.225
Labour-market status (ref = Retired)								
Working	-0.014	0.131	0.139	0.117	0.059	-0.012	0.128	0.017
Unemployed	-0.685**	-0.230	-0.982**	-0.951***	-0.609***	-0.682***	-0.580*	-0.367***
Other (homemaker/ sick/ disabled)	-0.078	-0.031	0.009	-0.257**	-0.030	-0.406***	-0.271	-0.014
Skill level of the job (ref = ISCO level 1 and 2)								
ISCO level 3 and 4	0.033	0.112*	-0.117	0.112*	0.135*	0.273***	0.267**	0.040
Never done paid work	-1.880***	-0.073	0.751*	-0.022	-0.011	0.229	-0.002	0.049
Skill level missing	-0.249	0.056	0.026	0.061	0.237*	0.327**	-0.102	0.098
Degree of urbanization (ref = Big city or suburb)								
Degree of urbanization missing	0.379	-0.013	0.051	-0.002	0.153	0.538*	0.008	-0.423**
Large or small town	0.021	0.000	0.056	0.034	0.161**	0.144*	-0.057	0.159**
Village or rural area	0.040	0.018	-0.066	0.026	0.198***	0.103	0.007	-0.127*
Self-reported health (ref = Good health)								
Very good or excellent health	0.488***	0.358***	0.428***	0.559***	0.530***	0.646***	0.367**	0.356***
Fair or poor health	-0.452***	-0.379***	-0.527***	-0.758***	-0.817***	-0.795***	-0.933***	-0.768***
Female	0.179**	0.010	-0.018	0.144**	0.228***	0.049	0.043	-0.054
Age (ref = 50-65)								
65-75	0.171	0.153*	0.398***	0.265***	0.250***	0.103	0.258	0.056

75-85	0.435***	0.328***	0.478***	0.487***	0.308***	0.169*	0.187	0.467***
85+	-0.117	0.322**	0.562***	0.855***	0.371**	0.266**	0.742***	0.523***
Constant	8.300***	7.664***	7.694***	7.601***	7.705***	6.815***	7.126***	7.408***
N respondents	1334	1640	1235	2416	3573	3529	957	3272
F Statistic, p	8.00***	8.16***	6.26***	19.57***	22.97***	21.18***	5.79***	20.54
Adjusted R Square	0.140	0.119	0.117	0.193	0.160	0.151	0.134	0.156
	IT	PT	ES	CZ	EE	HU	PL	SL
Household composition (ref = Living alone)								
Living with a partner	0.646***	0.366	0.650***	0.508***	0.295***	0.506***	0.176	0.367**
Living with children	-0.050	-0.280	0.442**	-0.245	-0.299**	-0.001	-0.525**	-0.296
Living with partner and child(ren)	0.673***	0.151	0.811***	0.585***	0.069	0.419**	-0.063	0.164
Living with partner and other household member(s)	0.442**	-0.027	0.778***	0.779***	0.153	0.398	0.009	0.159
Living with other household members	-0.048	-0.159	0.101	-0.271	-0.364*	-0.286	-0.877***	-0.165
Educational level (ref = ISCED level 0 to 2)								
ISCED level 3 to 6	0.022	0.075	0.064	0.221***	-0.077	0.243*	0.278*	0.271***
Still in education or other	0.271	-0.546	-0.599	0.638*	0.000	0.000***	-1.347	3.164*
Educational level missing	0.056	-0.092	-0.151	-0.791*	-0.353***	-2.054	-0.049	0.178
Labour-market status (ref = Retired)								
Working	-0.071	-0.194	0.018	-0.078	0.371***	0.167	-0.167	0.159
Unemployed	-1.510***	-0.819***	-0.559***	-1.121***	-0.894***	-1.385***	-1.024***	-0.306
Other (homemaker/ sick/ disabled)	-0.342***	-0.532**	-0.243*	-0.526**	-0.619***	-0.529***	-0.175	-0.022
Skill level of the job (ref = ISCO level 1 and 2)								
ISCO level 3 and 4	0.246**	0.259*	-0.157	0.321***	0.348	0.405***	0.038	0.221**
Never done paid work	0.210	0.573*	0.127	1.019*	0.119	1.629***	0.153	0.061
Skill level missing	-0.493**	0.965	0.031	0.641	-0.433	-1.894**	0.062	-0.137
Degree of urbanization (ref = Big city or suburb)								
Degree of urbanization missing	-0.571*	-0.205	-0.103	-0.158	0.138	0.038	0.168	-0.026
Large or small town	-0.035	0.380**	-0.081	0.007	0.078	-0.316**	-0.017	0.204
Village or rural area	0.093	0.041	-0.165	-0.155	-0.018***	-0.363***	-0.070	0.025
Self-reported health (ref = Good health)								

Very good or excellent health	0.562***	0.441**	0.390***	0.558***	0.550***	0.578***	0.689***	0.698***
Fair or poor health	-0.749***	-0.909***	-0.933***	-0.936***	-0.919***	-0.924***	-0.914***	-0.542***
Female	-0.033	-0.346***	-0.045	0.026	0.230***	0.197*	-0.091	0.239***
Age (ref = 50-65)								
65-75	-0.012	-0.103	0.088	0.249***	0.379***	0.196	0.198	0.089
75-85	0.150	-0.085	-0.010	0.408***	0.586***	0.488***	0.624***	-0.066
85+	0.008	0.298	0.120	0.764***	1.182***	0.949***	0.859***	0.715***
Constant	7.302***	7.790***	7.327***	7.107***	6.646***	6.617***	8.187***	6.948***
N respondents	2049	1195	2023	3808	4269	1767	1011	1937
F Statistic, p	14.48***	6.58***	10.12***	23.20***	19.52***	11.38***	5.02***	9.37***
Adjusted R Square	0.169	0.127	0.123	0.153	0.115	0.150	0.110	0.118

Significance: * p < 0.1; ** p < 0.05; *** p < 0.01

Country codes: Denmark (DK), The Netherlands (NL), Sweden (SE), Switzerland (CH), Austria (AU), France (FR), Germany (DE), Belgium (BE), Italy (IT), Portugal (PT), Spain (ES), Czech Repbulic (CZ), Estonia (EE), Hungary (HU), Poland (PL), Slovenia (SL)

Appendix III: Test for Equality of Regression Coefficients

Table A1: Differences between renters and outright homeowners

	DK	NL	SE	CH	AU	FR	DE	BE	IT	PT	ES	CZ	EE	HU	PL	SL
DK	x															
NL	0.060	x														
SE	-0.037	-0.097	x													
CH	0.174	0.114	0.212**	x												
AU	0.163	0.103	0.200***	-0.012	x											
FR	0.331**	0.271**	0.368***	0.156	0.168	x										
DE	0.167	0.107	0.204	-0.007	0.004	-0.164	x									
BE	0.166	0.106	0.204***	-0.008	0.004	-0.164	-0.001	x								
IT	0.270	0.210	0.307**	0.096	0.107	-0.061	0.103	0.104	x							
PT	0.376*	0.316*	0.413***	0.201	0.213	0.045	0.209	0.209	0.105	x						
ES	0.521**	0.461**	0.558***	0.346*	0.358*	0.190	0.354	0.354*	0.251	0.145	x					
CZ	0.281*	0.221	0.318***	0.107	0.118	-0.050	0.114	0.115	0.011	-0.095	-0.240	x				
EE	0.026	-0.034	0.063	-0.148	-0.137	-0.305	-0.141	-0.140	-0.244	-0.349	-0.495*	-0.255	x			
HU	0.259	0.199	0.296	0.085	0.096	-0.072	0.092	0.093	-0.011	-0.116	-0.262	-0.022	0.233	x		
PL	0.556**	0.497**	0.594**	0.382	0.394	0.226	0.389	0.390	0.286	0.181	0.036	0.276	0.530*	0.297	x	
SL	0.524*	0.464	0.561**	0.350	0.361	0.193	0.357	0.357	0.254	0.148	0.003	0.243	0.498	0.265	-0.033	x

Significance: * p < 0.1; ** p < 0.05; *** p < 0.01

Country codes: Denmark (DK), The Netherlands (NL), Sweden (SE), Switzerland (CH), Austria (AU), France (FR), Germany (DE), Belgium (BE), Italy (IT), Portugal (PT), Spain (ES), Czech Repbulic (CZ), Estonia (EE), Hungary (HU), Poland (PL), Slovenia (SL)

Table A2: Differences between outright homeowners and mortgage holders

	DK	NL	SE	CH	AU	FR	DE	BE	IT	PT	ES	CZ	EE	HU	PL	SL
DK	x															
NL	-0.242*	x														
SE	-0.154	0.088	x													
CH	-0.201	0.041	-0.047	x												
AU	-0.076	0.166	0.078	0.124	x											
FR	-0.081	0.161	0.073	0.120	-0.004	x										
DE	0.065	0.307*	0.219	0.265	0.141	0.145	x									
BE	-0.005	0.237**	0.149*	0.196	0.071	0.075	-0.07	x								
IT	-0.228	0.014	-0.074	-0.027	-0.152	-0.147	-0.293	-0.223	x							
PT	-0.162	0.080	-0.008	0.039	-0.085	-0.081	-0.226	-0.157	0.066	x						
ES	-0.010	0.232	0.144	0.191	0.066	0.071	-0.075	-0.005	0.218	0.152	x					
CZ	-0.057	0.185	0.097	0.143	0.019	0.023	-0.122	-0.052	0.171	0.104	-0.047	x				
EE	-0.182	0.060	-0.028	0.019	-0.106	-0.101	-0.247	-0.177	0.046	-0.020	-0.172	-0.125	x			
HU	0.395**	0.637***	0.549***	0.596***	0.471**	0.476**	0.330	0.400**	0.623***	0.557**	0.405*	0.452**	0.577***	x		
PL	-0.097	0.146	0.058	0.104	-0.020	-0.016	-0.161	-0.091	0.132	0.065	-0.086	-0.039	0.086	-0.491	x	
SL	0.056	0.298	0.210	0.257	0.132	0.136	-0.009	0.061	0.284	0.218	0.066	0.113	0.238	-0.339	0.152	x

Significance: * p < 0.1; ** p < 0.05; *** p < 0.01

Country codes: Denmark (DK), The Netherlands (NL), Sweden (SE), Switzerland (CH), Austria (AU), France (FR), Germany (DE), Belgium (BE), Italy (IT), Portugal (PT), Spain (ES), Czech Repbulic (CZ), Estonia (EE), Hungary (HU), Poland (PL), Slovenia (SL)

Table A3: Differences between 1-2 rooms and 6+ rooms

	DK	NL	SE	CH	AU	FR	DE	BE	IT	PT	ES	CZ	EE	HU	PL	SL
DK	x															
NL	0.560*	x														
SE	0.385	-0.175	x													
CH	0.425	-0.134	0.041	x												
AU	0.267	-0.293	-0.118	-0.159	x											
FR	0.456	-0.104	0.071	0.030	0.189	x										
DE	0.674*	0.114	0.289	0.249	0.407	0.218	x									
BE	0.501*	-0.059	0.116	0.076	0.234	0.046	-0.173	x								
IT	0.232	-0.328	-0.153	-0.194	-0.035	-0.224	-0.442	-0.269	x							
PT	-0.030	-0.590	-0.415	-0.455	-0.297	-0.486	-0.704	-0.531	-0.262	x						
ES	0.640*	0.080	0.255	0.214	0.373	0.184	-0.034	0.138	0.408	0.67	x					
CZ	0.421	-0.139	0.036	-0.005	0.154	-0.035	-0.253	-0.081	0.189	0.451	-0.219	x				
EE	-0.031	-0.591**	-0.416*	-0.457*	-0.298	-0.487*	-0.705*	-0.532**	-0.263	-0.001	-0.671*	-0.452	x			
HU	0.064	-0.495	-0.320	-0.361	-0.202	-0.391	-0.610	-0.437	-0.167	0.094	-0.575	-0.356	0.096	x		
PL	-0.615	-1.175**	-1.000**	-1.041**	-0.882*	-1.071**	-1.289**	-1.116**	-0.847	-0.585	-1.255**	-1.036**	-0.584	-0.679	x	
SL	0.069	-0.491	-0.316	-0.357	-0.198	-0.387	-0.605	-0.432	-0.163	0.099	-0.571	-0.352	0.100	0.004	0.684	x

Significance: * p < 0.1; ** p < 0.05; *** p < 0.01

Country codes: Denmark (DK), The Netherlands (NL), Sweden (SE), Switzerland (CH), Austria (AU), France (FR), Germany (DE), Belgium (BE), Italy (IT), Portugal (PT), Spain (ES), Czech Repbulic (CZ), Estonia (EE), Hungary (HU), Poland (PL), Slovenia (SL)